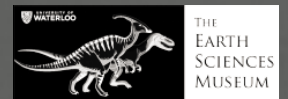# AR EXHIBITS

INSTRUCTIONAL DESIGN OF
AUGMENTED REALITY MUSEUM EXHIBITS

Team
——————
Hossain Samar Qorbani: Design Manager/ 3D modeler
Nick Fagan: Software developer
Frank Flitton: UI/UX designer

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UNIVERSITY OF WATERLOO

THE EARTH SCIENCES MUSEUM

THE EARTH SCIENCES MUSEUM

The Earth Museum is an institution of education under the Department of Earth and Environmental Sciences and the Science Faculty.

For over 40 years, generations of families have come to understand and appreciate their environment and physical world through the free programming offered by the Earth Sciences Museum.

Located in the heart of the University of Waterloo's campus, the Museum has been a leader in community-based learning by housing and curating a unique collection of dinosaurs and fossils, dinosaur murals, minerals and gems, water exhibits, and rock samples.

Nearly 90,000 visitors annually visit this museum.

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PROJECT OBJECTIVE

To develop two innovative exhibits using new technologies such as Augmented/Virtual reality (AR/VR) that will have a physical presence in the heart of the UW campus but also be accessible to visitors in their own home.

EXHIBIT 1-DINO PUZZLE

The first exhibit we have created is an interactive game designed for children aged 8 to 12. The content for this exhibit is geared towards the elementary (Grade 4) school curriculum and contains three different dinosaurs and facts about each animal.

We used Unity game engine and Vuforia plugin to build this game.

This exhibit will ultimately be able to be accessed through a kiosk located in the museum as well as through an iOS and Android app accessible anywhere in the world.

OUR PROCESS

UNDERSTANDING

By observing and talking to the target audience we had the opportunity to better understand the stories behind users' experiences visiting the museum,
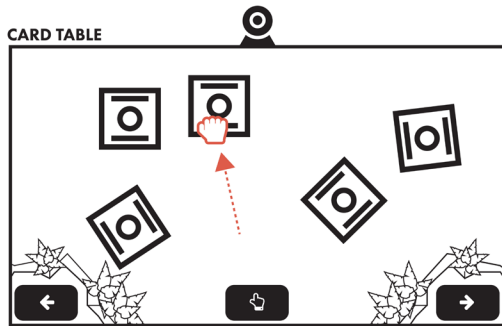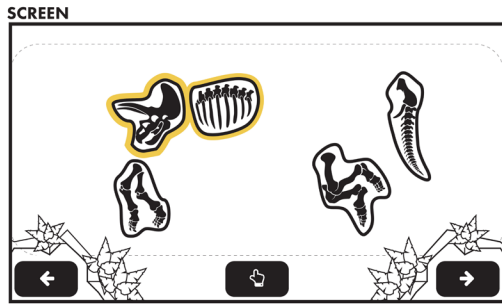
| User Research | Qualitative Research | Competitive Analysis | Exploratory Research | Technology Analysis |

SCREEN

CARD TABLE

As pieces get moved into the correct position they become highlighted and "snap" together.

PUZZLE GAME	PRIORITY
As a user, I want to do a puzzle	1
As a user, I want to see instructions	1
As a user, I want to initiate the game (move a card to sta...	1
As a user, I want to see something on the screen when ...	1
As a user, I want to know about the creature I assemble...	1
As a user, I need to know all the markers are present	1
As a user, I want feedback that the pieces are in the righ...	1
As a user, I want the cards to move a 3D dino piece on ...	1
As a user I want to use the same cards for each puzzle	1
As a user, I want to see a 3D dino when I complete the p...	1
As a user, I want to pick which puzzle I solve	2
As a user, I want to see the completed puzzle	2
As a user, I want to hear sound effetcs	2
As a user, I would like some background music	2
As a user, I would like to quit the current puzzle and sele...	2
As a user, I want to see a hint if I am stuck	2
As a user, I want to see the 3D dino animate	2
As a user, I want select different difficulties	3
As a user, I want to know my score	3
As a user, I want to log my name with my score	3
As a user, I want to mute the sound	3
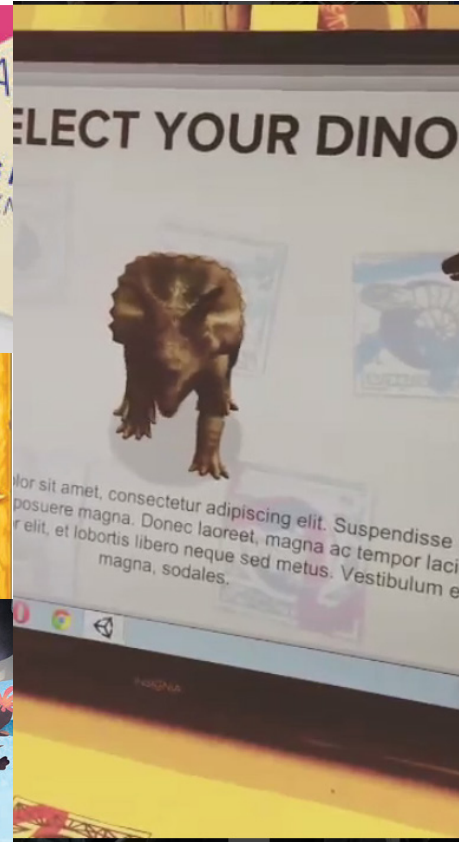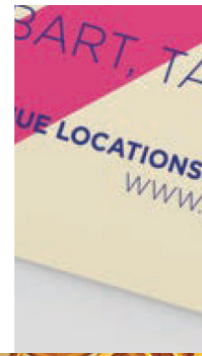
IDEATION

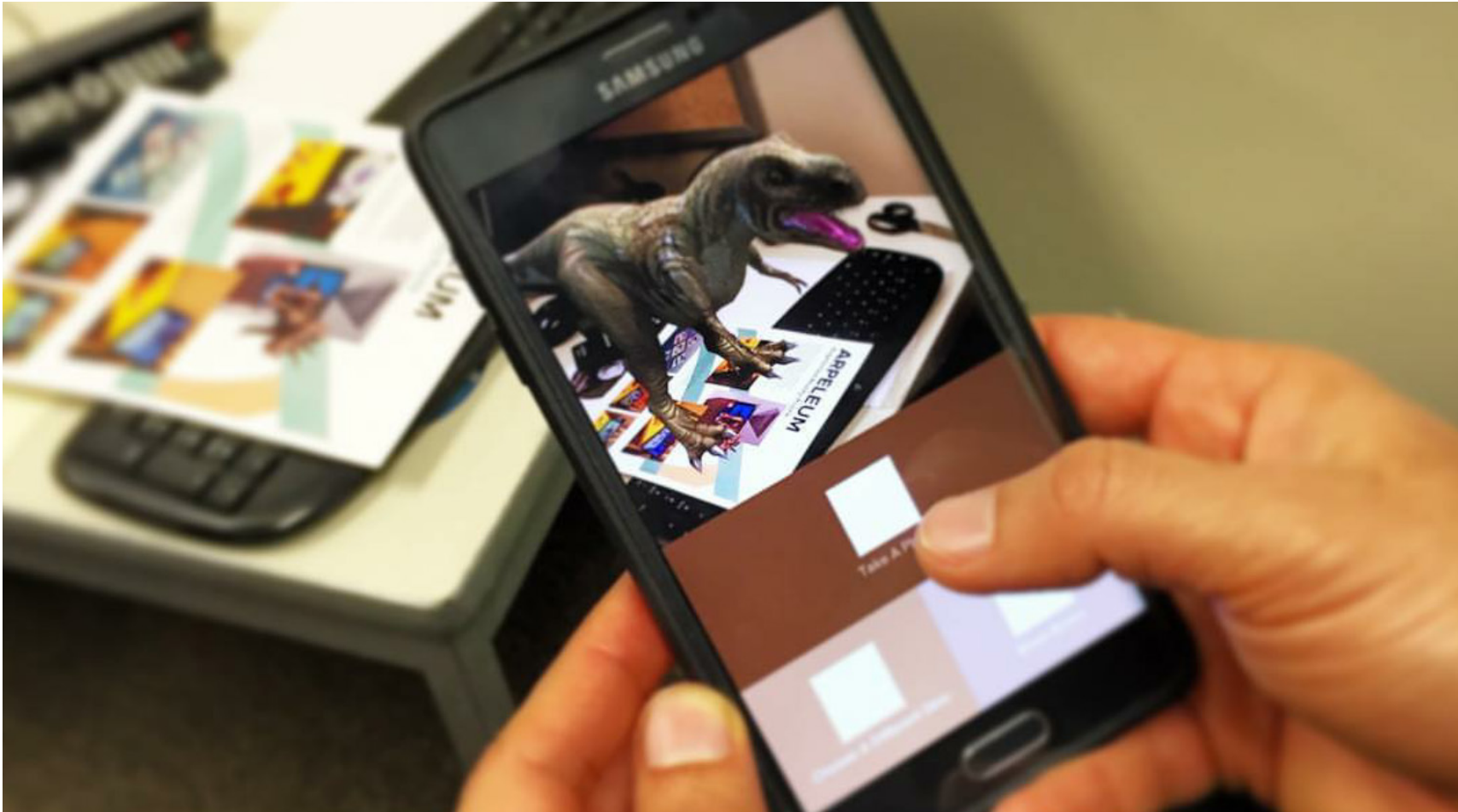| User Flow | User Stories | Design Brief | Wire Frame |

SOLUTION

Quick
Prototyping

Low-Fidelity
Mockup

High-Fidelity
Mockup

User
Testing

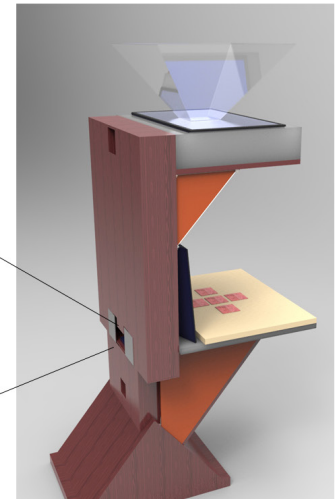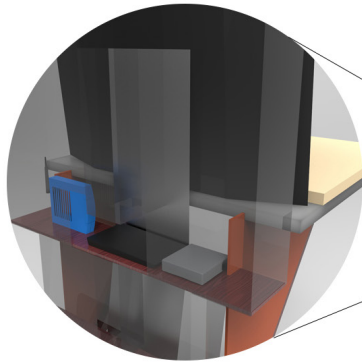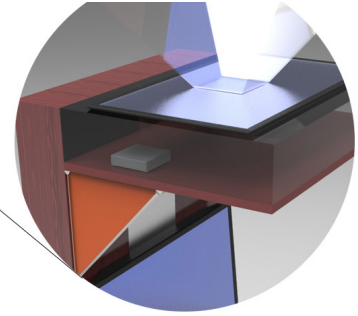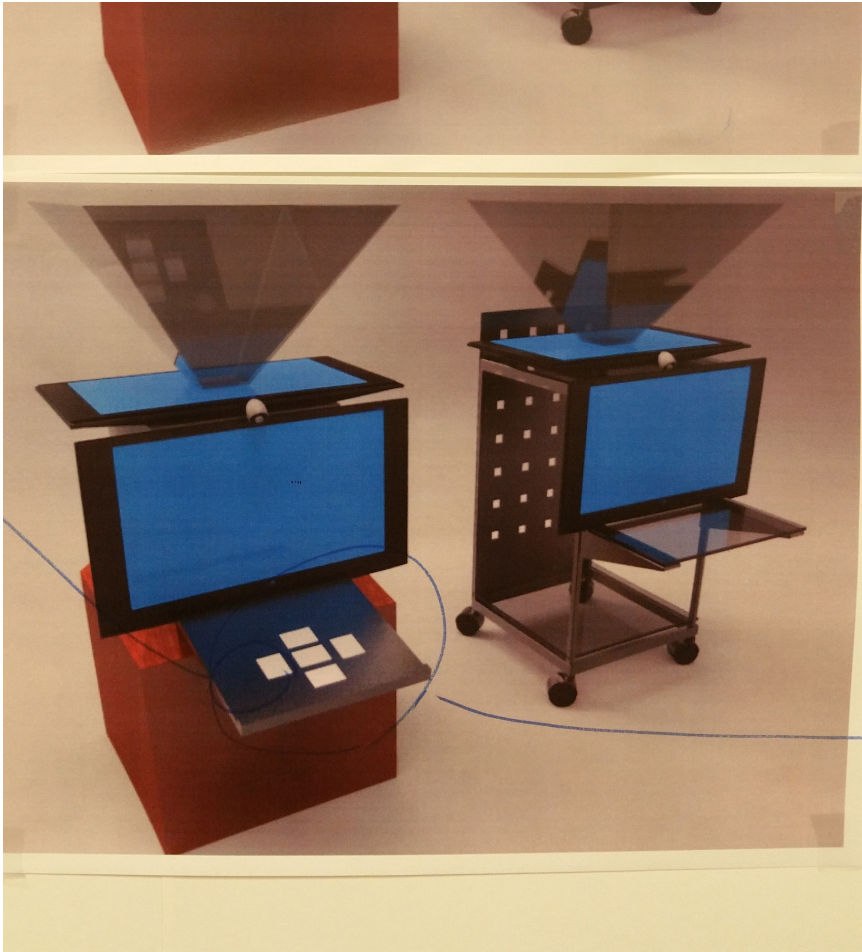Product
Delivery

TAKE-A-WAY APP

The beta version of this app will soon be available for Android and iOS. After installation, users will be able to print AR markers and play the puzzle similar to what they experience in the museum.

KIOSK DESIGN PROCESS

FINAL DINO 3D RENDERINGS

PROTOTYPE VIDEO

https://youtu.be/zrSzzbxV4RY